

U.S. Patent No. 6,511,111
Reply to Office Action of: 3/13/2003
Family Number: P2000J040A

AMENDMENTS TO THE CLAIMS

1. (Previously Amended) A fuel, useful as a diesel fuel comprising a Fischer-Tropsch derived hydrocarbon distillate having $338^{\circ}\text{C} < \text{T90} < 538^{\circ}\text{C}$ and a cold filter plugging point of less than or equal to $+5^{\circ}\text{C}$.
2. (Previously cancelled) A fuel according to claim 1 having having $349^{\circ}\text{C} < \text{T90} < 338^{\circ}\text{C}$.
3. (Previously cancelled) A fuel according to claim 1 having $371^{\circ}\text{C} < \text{T90} < 482^{\circ}\text{C}$.
4. (Previously cancelled) A fuel according to claim 1 having $371^{\circ}\text{C} < \text{T90} < 427^{\circ}\text{C}$.
5. (Previously cancelled) A fuel according to claim 1, 2, 3 or 4 wherein the cold filter plugging point is less than or equal to -5°C .
6. (Previously cancelled) A fuel according to claim 1, 2, 3 or 4 wherein the cold filter plugging point is less than or equal to -15°C .
7. (Previously cancelled) A fuel according to claim 1, 2, 3 or 4 wherein the cold filter plugging point is less than or equal to -30°C .
8. (Original) A fuel according to claim 1 wherein the hydrocarbon distillate contains:

<10 wppm Sulfur, Nitrogen

<2 wt % aromatics

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<0.1 wt % polyaromatics.

9. (Original) fuel according to claim 1 wherein the hydrocarbon distillate contains:

<5 wppm Sulfur, Nitrogen

<1 wt % aromatics

<0.1 wt % polyaromatics.

10. (Original) A fuel according to claim 1 wherein the hydrocarbon distillate contains:

<1 wppm Sulfur, Nitrogen

<0.1 wt % aromatics

<0.1 wt % polyaromatics.

11. (Original) A fuel according to claim 1 wherein the hydrocarbon distillate has a cetane number greater than 65.

12. (Previously cancelled) A fuel according to claim 1 wherein the hydrocarbon distillate has a cetane number greater than 75.

13. (Previously Amended) A method of reducing smoke during operation of a diesel engine comprising combusting a Fischer-Tropsch derived hydrocarbon distillate having a $338^{\circ}\text{C} < \text{T}_{90} < 538^{\circ}\text{C}$ and containing;

<10 wppm Sulfur, Nitrogen

<2% aromatics

<0.1% polyaromatics

wherein the cold filter plugging point of the distillate is less than or equal to

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+5 °C.

14. (Previously cancelled) A method according to claim 13 wherein the hydrocarbon distillate has a $349^{\circ}\text{C} < T_{90} < 338^{\circ}\text{C}$.

15. (Original) A method according to claim 13 wherein the hydrocarbon distillate has a having $371^{\circ}\text{C} < T_{90} < 482^{\circ}\text{C}$.

16. (Original) A method according to claim 13 wherein the hydrocarbon distillate has a having $371^{\circ}\text{C} < T_{90} < 427^{\circ}\text{C}$.

17. (Original) A method according to claim 13, 14, 15 or 16 wherein the hydrocarbon distillate has a cold filter plugging point of less than or equal to -15°C .

18. (Original) A method according to claim 13, 14, 15 or 16 wherein the hydrocarbon distillate has a cold filter plugging point of less than or equal to -30°C .

19. (Previously Amended) A method according to claim 13 wherein the hydrocarbon distillate contains:

<5 wppm Sulfur, Nitrogen

<1 wt % aromatics

<0.1 wt % polyaromatics

and has a cetane number greater than 65.

20. (Previously Amended) A method according to claim 19 wherein the hydrocarbon distillate contains:

<1 wppm Sulfur, Nitrogen

<0.1 wt % aromatics

<0.1 wt % polyaromatics

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and has a cetane number greater than 70.

21. (Currently Amended) A method of making a fuel of claim 1, the method comprising:

(a) passing a 149°C+Fischer-Tropsch derived hydrocarbon fraction into a first reaction zone comprising a hydroisomerization catalyst, said Fischer-Tropsch derived hydrocarbon fraction being derived from a Fischer-Tropsch process wherein a synthesis gas feed used in the process comprises a mixture of H₂ and CO in a ratio of at least 1.7:1;

(b) hydroisomerizing the 49°C+ fraction over the hydroisomerization catalyst to form a first effluent;

(c) passing at least a portion of liquid product from the first effluent into a second reaction zone comprising a catalytic dewaxing catalyst;

(d) dewaxing the first effluent over the dewaxing catalyst to form a second effluent; and

(e) distilling the second effluent to recover a hydrocarbon product with a 338 C<T90<538°C and a cold filter plugging point of less than or equal to +5°C.

22. (Previously Amended) A method according to claim 21 wherein the hydrocarbon distillate contains:

<1 wppm Sulfur, Nitrogen

<0.1 wt % aromatics

<0.1 wt % polyaromatics

and has a cetane number greater than 65.